

Application No. 10/540,265
Response to Office Action dated September 22, 2008

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-7. (Canceled).

8. (Previously Presented): A method for producing a vinyl-based polymer, comprising the steps of:

a first step of continuously feeding a material mixture comprising a vinyl-based monomer and a solvent selected from the group consisting of aromatic hydrocarbons, ketones, esters, alcohols, and mixtures thereof, to a continuous tank first reactor and polymerizing the vinyl-based monomer under conditions of a polymerization temperature of 150° to 300°C and a retention time of 1 to 60 minutes at a rate of polymerization of 50 to 99% to obtain a reaction intermediate mixture; and

a second step of feeding a polymerization initiator in the amount of 0.01 to 5 parts by mass based on 100 parts by mass of the vinyl-based monomer and the reaction intermediate mixture to a second reactor, and further polymerizing the vinyl-based monomer under conditions of a polymerization temperature of 100° to 200°C and a retention time of 10 to 240 minutes at a rate of polymerization of 80% or more.

9. (Original): The method for producing a vinyl-based polymer according to claim 8, wherein a resulting polymer has a mass average molecular weight of 1500 to 10000.

10. (Original): The method for producing a vinyl-based polymer according to claim 8, wherein the material mixture contains the polymerization initiator in an amount of 0.01 to 12 parts by mass based on 100 parts by mass of the vinyl-based monomer.

11. (Original): The method for producing a vinyl-based polymer according to claim 10, wherein the polymerization initiator is used in an amount of 0.01 to 8 parts by mass based on 100 parts by mass of the vinyl-based monomer.

12. (Original): The method for producing a vinyl-based polymer according to claim 8, wherein the material mixture contains a solvent in an amount of 200 parts by mass or less based on 100 parts by mass of the vinyl-based monomer.

13. (Original): The method for producing a vinyl-based polymer according to claim 12, wherein a content of the solvent is 2 to 100 parts by mass based on 100 parts by mass of the vinyl-based monomer.

14. (Original): The method for producing a vinyl-based polymer according to claim 8, wherein the material mixture is continuously fed to the first reactor after preheating.

15. (Original): The method for producing a vinyl-based polymer according to claim 8, wherein the polymerization temperature in the first step is 200° to 280°C.

16. (Original): The method for producing a vinyl-based polymer according to claim 8, wherein the rate of polymerization in the first step is 80 to 98%.

17-20. (Canceled).

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21. (New): The method of claim 8, wherein the solvent is selected from the group consisting of aromatic hydrocarbons, ketones, and mixtures thereof.

22. (New): The method of claim 8, wherein the solvent is selected from the group consisting of aromatic hydrocarbons, ketones, alcohols, and mixtures thereof.

23. (New): The method of claim 8, wherein the solvent is selected from the group consisting of aromatic hydrocarbons, ketones, esters, and mixtures thereof.